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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/976,199
Filing Date: October 11, 2001
Appellant(s): SUNDAHL ET AL.

Justin B. Scout
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 13, 2005 appealing from the
Office action mailed July 13, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,414,661	SHEN ET AL	02-2002
6,528,951	YAMAZAKI ET AL	03-2003
6,229,508	KANE	05-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-7, 10-11, and 13-18, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen et al (6,414,661) in view of Yamazaki et al (6,528,951).

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Regarding claim 1, Shen discloses (Figs. 1-3 and 9) a method for at least partially compensating luminance of an emissive display comprising:

having a desired luminance (L), as a function of time, for one organic light emitting diode (OLED) included in the emissive display (Column 4, line 61 to column 5, line 27; and column 7, lines 50-64);

estimating the amount of degradation of one organic light emitting diode included in the emissive display (Abstract, lines 4-5, "calculates and predicts the decay in light output efficiency of each pixel based on the accumulated drive current applied to the pixel" is the step of "estimating the amount of degradation of one OLED". Furthermore, Shen also teaches the "averaged over all of the measurements" can also be considered as the step of "estimating the amount of degradation") (column 7, lines 19-27); and

"attempting to adjust" the luminance of the one or more OLEDs based, at least in part, upon the estimate (see Abstract, lines 1-14).

Furthermore, the term "attempting to adjust the luminance" is not a positive limitation since the Applicant "may" or "may not" actually adjust the luminance of the OLED.

The only difference between the disclosure of Shen and the claimed invention is that the claim requires “attempting to adjust” the luminance so that the luminance remains substantially constant.

However, Yamazaki discloses (Fig. 24) of the luminance of an EL or (OLEDs) element is compensated to almost at a constant level irrespective of the temperature (Column 1, lines 18-22; and column 31, line 49 to column 32, line 14).

Therefore, it would have been obvious to a person of ordinary skill in the art to use the method of adjusting the luminance of an EL or OLED element at a constant level into the emissive display device of Shen to control the luminance of the OLEDs display elements at a constant level independent of the change in surrounding temperature.

Regarding claim 11, note the rejection as set forth above with respect to claim 1. Shen further discloses (Fig. 9) one OLED (display 93);

a measurement circuit (voltage sensing 94) “capable of” estimating the amount of degradation of the OLED (Shen teaches the “averaged over all of the measurements” can also be considered as the step of “estimating the amount of degradation”) (column 7, lines 19-27) ; and

a control system (control 97) is "capable of" attempting to adjust the luminance of the OLEDs to the desired luminance (Abstract, lines 1-14).

Furthermore, the statements of intended use or field of use, "operable to", "adapted to", or "capable of" clause are essentially method limitations or statements of intended or desired use. Thus, these claims as well as other statements of intended use do not serve to patentably distinguish the claimed structure over that of the reference. See *In re Pearson*, 181 USPQ 641; *In re Yanush*, 177 USPQ 705; *In re Finsterwalder*, 168 USPQ 530; *In re Casey*, 512 USPQ 235; *In re Otto*, 136 USPQ 458; *Ex parte Masham*, 2 USPQ 2nd 1647.

See MPEP 2114:

"A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from the prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ 2nd 1647.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. *In re Danly*, 120 USPQ 528, 531.

Apparatus claims cover what a device is not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ 2nd 1525, 1528."

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

Regarding claim 3, 4, 13 and 15-17, Shen discloses (Fig. 9) the measuring the voltage across one or more OLEDs (column 7, lines 50-61).

Regarding claims 5 and 14, 18 since Shen mentions that the calculation is based on either in the amount of the drive current or voltage (see abstract, lines 7-13), it is obvious to a person of ordinary skill in the art to recognize that the calculation can be in term of the measured reverse bias resistance since it is well-known that the resistance is proportional to the current or voltage.

Regarding claim 6, since Shen mentions that the calculation is based on either in the amount of the drive current or voltage (see abstract, lines 7-13), it is obvious that the calculation can be in term of the electrical energy since the energy is well-known to be calculated using the known current or voltage.

Regarding claim 7, Shen mentions that the calculation is based on either in the amount of the drive current or voltage (see abstract, lines 7-13).

Regarding claim 10, Shen discloses estimating the amount of degradation of one or more organic light emitting diodes (OLEDs) included in the emissive display (column 7, lines 19-27); and adjusting the luminance of the one or more OLEDs based, at least in part, upon the estimate (see Abstract, lines 1-14).

Claim Rejections - 35 USC § 103

Claims 8-9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen (6,414,661) in view of Yamazaki et al as applied to claims 1 and 11 above, and further in view of Kane (6,229,508).

Regarding claim 8, Shen fails to disclose the step of adjusting using a look up table (LUT).

However, Kane discloses the method of adjusting the brightness of the OLEDs using a look up table (LUT) (column 17, lines 6-15).

It would have been obvious to the person of ordinary skill in the art to use the look up table of Kane into the luminance adjusting system of Shen since this is only another alternative way of using the look up memory or a storage medium to adjust the voltage values.

Regarding claim 9, Shen further discloses the luminance of the OLED is achieved by the adjustment essentially decreases over time. See column 7, lines 15-18; and column 8, lines 35-40.

Regarding claim 19, note the rejection as set forth above with respect to claim 8. Furthermore, the LUT can also be considered as the claimed storage medium.

(10) Response to Argument

Claims 1, 3-7, 10-11 and 13-18

The Appellants argue, at page 11 (first paragraph), that neither Shen nor Yamazaki teaches the claimed limitation “having a desired luminance, as a function of time” (Claim 1, line 3). The examiner respectfully disagrees.

First of all, the claim 1 does not recite the “desired luminance, which is a function of time”. But the claim 1 clearly recites “having a desired luminance, as a function of time” (Claim 1, line 3).

Secondly, Shen clearly teaches the limitation of “having a desired luminance, as a function of time” (Column 4, line 61 to column 5, line 27; and column 7, lines 50-64),

“At any time “t” the Luminance “L” of any OLED pixel is approximately proportional to the current (I) in the pixel as set forth in equation (1):

$$L(t) = n(t)*I(t) \quad (1)$$

Where “L” represents the luminance of the pixel, “n” represents the pixel efficiency in converting current, and “ I” represents the current passing through the light emitting material. The efficiency as a function of time may be approximated by an exponentially decaying curve. When the decay rate is set to be proportional to the total number of charges that pass through the light emitting

device the relationship between efficiency and current as functions of time as shown in equation (2) is obtained:

$$N(t) = n_0 \exp [-I(t) dt / I_0 t_0] \quad (2) \quad \ll \text{(Column 5, lines 5-20).}$$

Shen further teaches "The voltage level V_n (I_n-1) is applied to circuitry 95 that calculates a value n_N which is used to determine the current level needed to produce the "desired brightness" during the present time interval" (Column 7, lines 57-61). Therefore, the 'desired brightness' is the claimed "desired luminance".

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the Appellants' claim refers to constant luminance temporally (Page 11, line 6)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The Appellants argue, at page 12, by asserting that "Kamazaki does not address temporal (i.e. time based) degradation but instead Yamazaki addresses degradation due to temperature".

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

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USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Yamazaki discloses (Fig. 24) of the luminance of an EL or (OLEDs) element is compensated to almost at a constant level irrespective of the temperature (Column 1, lines 18-22; and column 31, line 49 to column 32, line 14).

Therefore, it would have been obvious to a person of ordinary skill in the art to use the method of adjusting the luminance of an EL or OLED element at a constant level into the emissive display device of Shen to control the luminance of the OLEDs display elements at a constant level independent of the change in surrounding temperature.

Claims 8, 9 and 19

The Appellants argue, at page 13, that neither Shen, Yamazaki, nor Kane teaches the claimed limitation “having a desired luminance, as a function of time” (Claim 1, line 3). The examiner respectfully disagrees.

First of all, the claim does not recite the “desired luminance, which is a function of time”. But the claim 1 clearly recites “having a desired luminance, as a function of time” (Claim 1, line 3).

Secondly, Shen clearly teaches the new added limitation "having a desired luminance, as a function of time" (Column 4, lines 61-63; column 5, lines 5, lines 5-20; and column 7, lines 50-64).

Kane discloses the method of adjusting the brightness of the OLEDs using a look up table (LUT) (column 17, lines 6-15). It would have been obvious to the person of ordinary skill in the art to use the look up table of Kane into the luminance adjusting system of Shen since this is only another alternative way of using the look up memory or a storage medium to adjust the voltage values.

Regarding claim 9, Shen further discloses the luminance of the OLED is achieved by the adjustment essentially decreases over time. See column 7, lines 15-18; and column 8, lines 35-40.

Regarding claim 19, note the rejection as set forth above with respect to claim 8. Furthermore, the LUT can also be considered as the claimed storage medium.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



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